

REMARKS/ARGUMENTS

In response to the Office Action dated October 11, 2006, Applicants respectfully request the Office to enter the above amendments and consider the following remarks. By this response, Applicants amend claims 1, 9, 12-15, 17, 19 and 21. No claims are added or canceled. Thus, after entry of this paper, claims 1-23 will remain pending in this application.

In the Office Action, the Examiner (i) rejected claims 1 and 12 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,693,787 to Kolmanovsky et al. ("Kolmanovsky"); (ii) rejected claims 2-5 and 13-23 under 35 U.S.C. §103(a) as being unpatentable over Kolmanovsky in view of U.S. Patent application Publication No. US2002/0185983 to Poon et al. ("Poon"); and (iii) rejected claims 6-11 under 35 U.S.C. §103(a) as being unpatentable over Kolmanovsky, in view of U.S. Patent No. 6,472,777 to Teng et al. ("Teng").

35 U.S.C. §102(e) Rejections

Claims 1 and 12 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Kolmanovsky.

Without acquiescing to the rejection and in the interest of expediting prosecution, Applicants have amended claim 1 to further clarify the recited invention. Claim 1 now recites that "during a coarse adjustment phase, the controller adjusts a gap size between the target member and an attracting member that provides acceleration during the coarse adjustment phase by moving at least one of the first attracting member and the second attracting member relative to a base member." No new matter is added via these amendments. Applicants respectfully assert that Kolmanovsky does not teach or suggest the combination of features now recited.

Kolmanovsky is directed to an actuator (10) used to control an intake valve 14 in an internal combustion engine. See Kolmanovsky, col. 2, lines 59 - 64. The actuator 10 includes an armature 20 coupled to the intake valve 14, and electromagnets 16, 18 to urge armature 20 to move in one of two opposite directions. *Id.*, col. 3, lines 3-47. The

system in Kolmanovsky actually is a one-stage positioning system, using the two stationary electromagnets 16, 18 to position the armature 20. In Kolmanovsky, the electromagnets 16, 18 are not moveable relative to a base member (i.e., the internal combustion engine in the system disclosed in Kolmanovsky). Kolmanovsky does not teach that "during a coarse adjustment phase, the controller adjusts a gap size between the target member and an attracting member that provides acceleration during the coarse adjustment phase by moving at least one of the first attracting member and the second attracting member relative to a base member." Thus, the amended claim 1 is distinguishable from Kolmanovsky. Independent claim 12 has been amended to incorporate a similar limitation as discussed above. Thus, the amended claim 12 is also distinguishable from Kolmanovsky. Applicants respectfully request that the rejection of claims 1 and 12 under 35 U.S.C. §102(e) be withdrawn and the claims be allowed.

35 U.S.C. § 103(a) Rejections to Claims 2-5 and 13-23

Claims 2-5 and 13-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kolmanovsky in view of Poon.

Again, without acquiescing to the rejection and in the interest of expediting prosecution, Applicants amend claims 1, 13-15, 17, 19 and 21, from which claims 2-5, 16, 18, 20, and 22-23 depend, to further clarify the recited invention.

The amended claim 1 recites that "during a coarse adjustment phase, the controller adjusts a gap size between the target member and an attracting member that provides acceleration during the coarse adjustment phase by moving at least one of the first attracting member and the second attracting member relative to a base member."

As discussed above, Kolmanovsky, which is directed to a one-stage positioning system, does not teach or suggest the above cited limitation. Poon teaches a conventional two-stage positioning system including a coarse stage and a fine stage. See Poon, Abstract. In a conventional two-stage positioning system, for example, as disclosed by Poon, when the coarse stage moves relative to a base member, the fine stage moves with the coarse stage. The relative position between the fine stage and the coarse stage are only adjusted by moving the fine stage relative to the coarse stage,

but are not adjusted by moving the coarse stage relative to the base member. Poon fails to teach or suggest a gap adjustment performed during a coarse adjustment phase and associated limitations now recited in amended claim 1. Thus, Poon fails to cure the deficiency of Kolmanovsky. Therefore, independent claim 1 should be considered patentable over Kolmanovsky in view of Poon.

Claims 2-5 ultimately depend from claim 1 and are patentable for at least the same reasons as set forth in connection with claim 1.

Claims 13-23 as amended recite similar limitations as discussed above. Thus, claims 13-23 are patentable for at least the same reasons as set forth in connection with claim 1.

35 U.S.C. § 103(a) Rejections to Claims 6-11

Claims 6-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kolmanovsky in view of Teng.

Claims 6-8 ultimately depend from claim 1. As discussed above, claim 1 is patentable over Kolmanovsky. Teng is directed to a calibration process for a position sensor associated with opposing electromagnetic actuators “using a self-alignment process, e.g., during the system startup.” See Teng, col. 2, lines 2-4. The calibration/alignment procedure of Teng is a methodology involving measurement of actuator currents as well as the E-I core gap using a capacitive sensor, in connection with providing feedback enabling calibration of the actuators to “null” positions. *Id.*, lines 12-24. Teng fails to teach or suggest that “during a coarse adjustment phase, the controller adjusts a gap size between the target member and an attracting member that provides acceleration during the coarse adjustment phase by moving at least one of the first attracting member and the second attracting member relative to a base member.” Thus, Teng fails to cure the deficiency of Kolmanovsky. Claim 1 and its dependent claims 6-8 are patentable over Kolmanovsky in view of Teng.

Independent claim 9 is amended to recite “manipulating the relative position of the target member by moving the attracting framework relative to a base member to decrease the distance between one of the attracting members and the target member

during a coarse stage adjustment phase." Kolmanovsky fails to teach "manipulating the relative position of the target member by moving the attracting framework relative to a base member." As discussed above, Teng also fails to cure this deficiency. Applicants respectfully submit that, based at least on the absence of these recitations, the cited combination of references fails to render claim 9 unpatentable.

Claims 10 and 11 depend from claim 9 and are patentable for at least the same reasons as set forth in connection with claim 9.

Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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